

## REMARKS

### **Status**

This Amendment is responsive to the Office Action dated May 17, 2007, in which Claims 13-19, 22-24, 26-29, and 34 were rejected. Claims 23-27 have been canceled and Claim 13 and 34 have been amended. Accordingly, Claims 13-19, 22, 28, 29, and 34 are pending in the application, and are presented for reconsideration and allowance. Claims 1-12, 20, 21, and 30-33 stand withdrawn by the Examiner.

Claims 13 as now presented corresponds to previous claim 27 written in independent form including all intervening claims. No new matter or new issues are raised by this claim as it was previously examined as claim 27. Claim 34 was objected to as containing a duplicate dye structure. One of the duplicate dye structures has been deleted. No new issues or new matter are raised by this action as the dye structure was previously in the claim. Therefore it is respectfully urged that there are no issues raised barring entry of the instant Amendment after Final.

### **Objection under 35 USC 132**

At page 3 of the Office Action the Examiner objects to the material added at page 29 line 3 of the specification in the last amendment of February 12, 2007. The Examiner states that support for cyan colored microspheres which "do not substantially fluoresce when excited by visible light" is not found in the disclosure as originally filed. This objection is respectfully traversed. The Examiners attention is directed to page 3 lines 17-20 of the specification where the same wording is set forth in regard to cyan dye. Therefore, is respectfully requested that this objection under 35 USC 132 be reconsidered and withdrawn.

### **Claim Rejection - 35 USC 102**

At page 3 of the Final Rejection, claims 13, 17-19, 22-24, 28, and 29 stand rejected under 35 USC 102 as being anticipated by US Patent No. 5,055,379 (Bagchi et al). This rejection is respectfully traversed. It is respectfully urged that this rejection is moot as the pending independent claim 13 now corresponds to previous claim 27 which was not rejected under 35 USC 102 as anticipated by Bagchi. Therefore, it is respectfully requested that this rejection under 35 USC 102 be reconsidered and withdrawn.

### **Claim Rejection - 35 USC 103**

At page 5 of the Office Action, claims 13-19, 22-24, and 26- 29 are rejected under 35 USC 103(a) as being unpatentable over US Patent No. 5,055,379 (*Bagchi et al*) in view of Chrisey et al (1996 Nucleic Acids Research 24: 3040-3037). This rejection is respectfully traversed.

While no details of this rejection are given in the Final Office Action, it is assumed that it refers back to the rejection in paragraph 7 of the Office Action of September 12, 2006. In that rejection the Examiner states that Bagchi does not teach chemically surface active sites capable of reacting with a nucleic acid. Chrisey is stated to teach chemistry for loading a surface with oligonucleotides capable of hybridizing with fluorescently labelled complementary strands. The Examiner states that one of ordinary skill in the art would be motivated to use the surface active cites of Chrisey et al. with the array of Bagchi because gelatin grafted particles loaded with a dye would provide more distinct features. The Examiner states that one of ordinary skill would have a reasonable expectation of success with the combination because both photolithography and immobilization of oligonucleotides is well-established in the art. This rejection is respectfully traversed.

Bagchi relates to the formation of a photoresist composition containing gelatin coated particles. There is no disclosure or suggestion in Bagchi that the teachings therein be utilized in a biological process. The Bagchi patent is written to color filter arrays for solid-state color image sensing devices and their preparation. Bagchi column 2 lines 20-29 suggests several other uses for the technique but does not suggest any biological use. Chrisey deals with the fabrication of patterned DNA surfaces. The technique of Chrisey involves large molecules in an array not spheres. The molecules of Chrisey fluoresce. There is no suggestion or disclosure in Chrisey that microspheres be utilized rather than large molecules, much less that the microspheres be selected that contain a dye of Formula 1 that does not substantially fluoresce when excited by visible light. In order to form the invention modification, Bagchi would have to be carried out to utilize microspheres that do not substantially fluoresce when excited by visible light and to utilize bioactive components to form a bioactive site that interacts with nucleic acid. Chrisey does not have such teachings for modification. Chrisey does not have microspheres, does not have dyes that do not substantially fluoresce and users large molecules that do fluoresce. There is no combination in any of the teachings of these two references that would enable one of skill in the art to form the instant invention. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

The Examiner has urged that the Declaration under 35 USC 132 is incomplete and not convincing as the dyes were not tested across the entire light spectrum and the evidence is not commensurate with the breadth of the claims. The Declaration is intended to show that some Bagchi dyes to fluoresce. With respect to testing across the wavelength, the dyes are excited at the wavelength of absorbence maximum of the dye, because it absorbs the most light at that wavelength. Therefore, if the dye will fluoresce it will fluoresce as a result of excitation in its wavelength of absorbence maximum. Therefore, testing across the bandwidth is not necessary. While some dyes of Bagchi will not substantially fluoresce, the broad disclosure of dyes in Bagchi includes dyes that will fluoresce and there is no teaching or suggestion in Bagchi that performance of the fluorescent and nonfluorescent dyes is different in the Bagchi process. The applicant has claimed a selected a group of dyes, where the nonfluorescent dyes are included in the invention. The Declaration confirms that some Bagchi dyes fluoresce.

### **Claim Rejection - 35 USC 103**

In the section of the Final Rejection bridging pages 5 and 6, claims 13-15,17-19, 22-24, 28, 29, and 34 stand rejected under 35 USC 103(a) as being unpatentable over U.S. 5,055,379 (Bagdhi et al.). It is respectfully requested that this rejection be reconsidered and withdrawn as moot. The only independent claim presently examined in this application corresponds to original dependent claim 27 written an independent form. As this rejection does not apply to claim 27, it is moot and withdrawal is respectfully requested.

### **Claim Objections**

On page 6 of the Final Rejection Claims 25, 26, and 27 are objected to as having incorrect status identifiers. The Examiner states the claim 25 should stand as “withdrawn” and claims 26 and 27 should be indicated in as “original”. It is requested that this objection be reconsidered and withdrawn as claims 25-27 have been canceled in this amendment.

On page 6 of the Final Rejection Claim 34 is objected to it as having a duplication of the structure of CD-1. The duplicate structure in claim 34 has been removed by amendment above and therefore it is requested that this objection be withdrawn.

### **Claim Rejections under 35 USC 112**

In the section of the Final Rejection bridging pages 6 and 7, claims 13-19, 22-24, 26-29, and 34 stand rejected under 35 USC 112 as failing to comply with the written description

requirement. Examiner states the claims contain subject matter not described in specification and contain new matter. Examiner states that the specification does not provide support for the phrase "that do not substantially fluoresce when excited by visible light". This rejection is respectfully traversed.

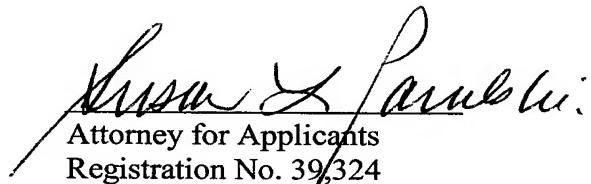
The Examiner's attention is directed to the specification at page 3 lines 18-20 where the language noted by the Examiner is set forth in the specification. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

### **Summary**

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, it is respectfully requested that the rejections under 35 USC 102, 35 USC 103, 35 USC 112, and the objections related to new matter be reconsidered and withdrawn, and a favorable action is respectfully solicited.

Respectfully submitted,



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